



Shellstockers' Review

Newsletter of the North Carolina Shellfish Growers Association
April, 2012

Jay Styron- President
Mark Hooper- Vice President
Treasurer- Dana Schmidt
Richard Farris- Secretary
PO Box 1501 Morehead City, NC 28557

A Note From the Secretary:

Greetings, NCSGA members and interested people. After a time of hibernation, the NCSGA newsletter is back in print. As the secretary and person currently responsible for compiling and organizing the newsletter contents, it is my goal to make the newsletter something that all SGA members look forward to receiving. I plan to include all NCDMF news releases that are relevant to shellfish issues, Current shellfish research proposals and investigation results conducted by local and other researchers, SGA news, shellfish related classified "for sale or wanted" ads and feature articles from members including appropriate editorials. I hope to stimulate the participation of all members towards the contents of the newsletter. I would very much appreciate hearing from the members about things they would like to see included, especially comments on how the SGA can be more effective in connecting with and bringing more value to the current and prospective members. What can the SGA do to promote

the shellfish industry and assist new growers to transition into part-time or full-time shellfish growing? Send comments and suggestions to ncsgasecretary@yahoo.com or PO Box 1501 Morehead City, NC 28557 and enjoy the newsletter!

SGA News in Brief

SGA officers were selected for 2012 at the NC Aquaculture Conference in January. The officers include: President: Jay Styron, Vice President: Mark Hooper, Treasurer: Dana Schmidt, and Secretary: Richard Farris. SGA dues are still \$15/ year running January to January.

Division of Marine Fisheries News Releases

NC Marine Fisheries Commission-Shellfish Advisory Committee Meeting, Division of Marine Fisheries Central District Office, 5285 Hwy 70 West, Morehead City, NC, April 9, 2012 at 6 p.m.

Partial agenda concerning shellfish

- Petition to designate Possum Bay and Swan Point as a Seed Oyster Management Area
- Update on Bay Scallop Season
- Update on Declaratory Ruling Request For Mechanical Harvest of Clams
- Update on use of Supplement Management Measures for Mechanical Harvest of Oysters

2012 Aquaculture Conference

If you missed the 2012 NC Aquaculture Conference in January, then you missed some excellent presentations on various shellfish topics and more. Dr. Anu Frank-Lawale from Virginia Institute of Marine Science (VIMS) presented “Riding Cows and Milking Horses”, an entertaining overview and history of the oyster breeding program at VIMS and why oyster breeding programs are essential. Dr. Marc Turano from NC State University presented the findings of a statewide survey of shellfish leaseholders that gives great insight that profiles the composition of the NC shellfish growers that responded. It also gives good insight as to the most common concerns of shellfish growers that may be impeding new growers and the industry as a whole in NC.

Troy Alphin with UNC Wilmington presented the GIS project in progress that is designed to help assess lease site suitability based on numerous important criteria. This program should take a lot of the guess work out of site selection and help answer the question that all potential lease holders ask. “How do I know if I have a good lease site or not?” However, there is no substitute for walking the potential lease area and making onsite observations at some point. Dr. James Morris presented the results of an oyster growth study that compared wild and domesticated lines from Virginia and North

Carolina in a North Carolina floating flip bag grow-out system. This work further supports the benefits of genetic improvements through a breeding program.

Abstracts of Dr. Turano’s and Dr. Morris’ presentations are included below. Jay Styron with UNCW also made a presentation and Dr. Ami Wilbur of UNCW is working on evaluating growth of NC wild oysters in different locations and growing methods for broodstock selection for genetic improvement.

Developing tools for the growth of the North Carolina Shellfish Industry: Site Condition Assessment and Economic Impacts: Marc J. Turano*, Martin Posey, and Troy Alphin

Shellfish aquaculture in North Carolina represents a small, yet important industry to coastal counties, providing locally grown clams and oysters and supplemental income to numerous families. Despite an increase in the demand for safe and sustainable seafood, North Carolina’s shellfish aquaculture industry continues to be a niche industry dominated by fishermen from traditional fishing backgrounds. Current growers and other stakeholders have cited logistical difficulties in obtaining a lease as a primary obstacle to industry development, including trouble identifying growing areas with long-term suitability, declining water quality leading to area closures, moratoriums, uncertain operational and start-up costs, and conflict potential with other user groups. To address these issues, the goals for this on-going project are to assess the state of the current shellfish aquaculture industry, develop tools (mapping and economic) to assist the siting of new or expanding shellfish operations and evaluate the potential economic impact that growth of shellfish aquaculture could

have on local communities (particularly in areas historically dominated by commercial fishing). To accomplish these goals, a statewide survey was conducted in February, 2011 to identify total production by species and type, sales of fresh shellfish by species and size, market value of cultured product, seed sources, future production, and constraints to production. An aquaculture siting tool (AST) is currently being developed using GIS to identify specific areas that are suitable for shellfish aquaculture in three N.C. waterbodies. In years two and three of this project, aquaculture profitability spreadsheets will be constructed to determine the inputs and outputs of various shellfish aquaculture operations, and lastly, the economic impact on local economies from the addition of new shellfish facilities and/or increase in production on existing leases.

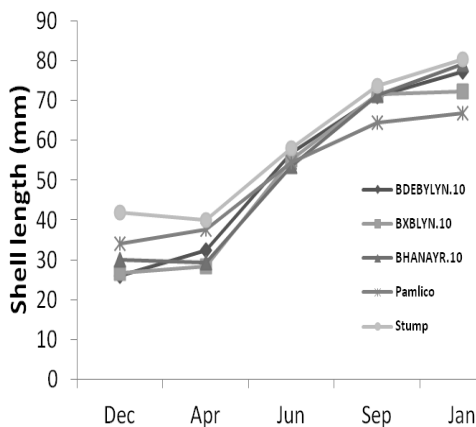
The statewide survey was recently completed, with a 22% response rate. Respondents reported lease acreage ranging in size from 0.5 to 86.5 acres, 40.8% of which were located in one county (Carteret). Regarding business operations, leases were in operation for 15 years on average, with 18.9% of respondents' income being generated from shellfish culture activities. Clams, oysters, and scallops were grown on 69.4, 73.5, and 2.0 % of all leases, respectively. 71% of clam producers purchased seed for growout. For oyster production, the vast majority of producers utilized extensive production methods (80% relied on cultch planting, and 69% participated in oyster relay). The primary concerns for leaseholders were theft, hurricanes, and water quality. Overall, increased demand and stable prices for cultured shellfish provide an opportunity for future shellfish aquaculture development in NC. Addressing issues of theft and deteriorating water quality will assist this

growth so long as the economics of production are maintained. Substantial potential exists for current leaseholders to expand, and industry development could also arise from new growers. Assistance with siting new shellfish leases could reduce risks due to both theft and problematic water quality, and therefore should be included when considering how to best assist the industry. The final report for this survey is available on the North Carolina Sea Grant webpage, www.ncseagrant.org.

Oyster growth study compares wild and domesticated lines in North Carolina: James A. Morris Jr., Outer Banks Oyster Company, Anu Frank-Lawale (VIMS), and Stan Allen (VIMS).

In partnership with the Virginia Institute of Marine Science (VIMS), oysters of various genetic lines including North Carolina wild stocks (Stump and Pamlico) were compared with three VIMS domesticated lines (DBY, hANA, XB) on a high salinity oyster farm at Harkers Island. The farm site is a relatively high salinity site with ample flushing provided by two neighboring inlets, Beaufort Inlet and Bardens Inlet. Spat were deployed in flipbags and mortality, growth, and shell morphology were assessed for all lines over a 13 month period. Mortality was negligible for all lines. One of the wild lines (Pamlico) performed poorly, likely owing to lack of high salinity tolerance. The Stump line, a high salinity oyster derived from Stump Sound, performed similarly to the domesticated lines in growth by the end of the study, however it started out 40% larger and was lacking in shell width, depth, and shell thickness. The hANA line exhibited the fastest growth and best overall shell morphology, a result of several generations of selective breeding for improved performance in high salinity environments. Selective breeding efforts are needed to develop a line of oysters specific to North

Carolina. This will ensure a North Carolina brand of oysters and possibly lead to improvement of shell shape and growth rates. Based on the results of this study, the Stump line exhibits much promise as the progenitor of a domesticated line for North Carolina in high salinity waters. Future breeding efforts of this line could result in significant increases in growth rate within five years. As the oyster industry continues to grow in North Carolina, future efforts similar to this study are needed across a wide range of salinity and nutrient (i.e., phytoplankton) levels. Given the wide variation of salinity and nutrient levels in North Carolina estuaries, oyster seed stock performance is likely to vary significantly. For example, the best oyster when salinity and nutrient levels are high may not be the best where the salinity and nutrients are low. A grower-based breeding program capable of testing various lines along salinity and nutrient gradients is needed to provide industry with high resolution data capable of informing growers on the performance of various lines. This study was funded by the North Carolina Blue Crab and Shellfish Research Program.



Information for Potential New Growers

Since the Aquaculture conference in January, at least six individuals have expressed interests in growing shellfish on a part-time basis, with the idea of first

expanding their experience and knowledge base and then considering larger scale production. The level of interest is currently at the point of evaluating growing methods, lease procurement and equipment and seed purchasing. With that in mind, I have included some excerpts from the last Shellstockers' Review Volume 54 April 2010 newsletter that will hopefully be of use to anyone looking for a suitable lease site.

“Getting involved [in finding a lease] can be as simple as purchasing or sub-leasing an existing shellfish lease.

- First research the lease history to make sure it is not being terminated and has sufficient production to continue operating as a lease.
- Then research the potential for rainfall induced closures and other problems such as developing adjacent shorelines.
[The GIS site assessment program, mentioned earlier, will help greatly with the first two items when it is ready.]
- Finally, complete the appropriate paperwork with the NC Division of Marine Fisheries.

Obtaining a new lease requires more research and study. Shellfish leasing is a statutory provision in North Carolina laws. Along with the rights to lease submerged bottomlands are conditions which must be met before a lease can be granted. It's an involved process and you can obtain more detailed information and assistance from the NC Division of Marine Fisheries or NC Sea Grant.

Site selection research ensures that leases may not be located in the following:

- Polluted areas
- Navigation waterways

- Natural shellfish beds (10 bushels per acre of shellfish)
- Within 100 feet of developed shoreline (unless permission granted by riparian owner)

Site selection research should also look for:

- Proper and adequate water flows for food supply
- Convenient depths for working your anticipated culture methods
- The impacts of wave and wind energy on gear
- Appropriateness of bottom type for species to be cultured

Additional Comments from the Secretary

As mentioned earlier I hope that the SGA newsletter will be a productive venue for interaction and discussion about current topics affecting the NCSGA and the shellfish industry as well as a source of useful information. The following comments are not the official views of the NCSGA, but are my own based on the NCSGA, factual research data and my observations.

One of the questions in the survey conducted by Dr. Turano was concerning leaseholders views of the future for NC shellfish culture. According to the survey, about 42% of respondents thought that the industry would grow in the next five years, while 38% thought the industry would decline, with about 20% suggesting that the industry would be stable over the next five years. Although I was not part of the survey, I have wondered about the future of the industry and what part I hope the NCSGA and I will play in that future. The documentation is clear that the shellfish industry in Virginia is continuing to grow and the market demand, especially to the central part of the US, is growing. The question seems to be, “Does NC want to be

a part of that growth and prosperity, or do we want to leave that to our neighboring shellfish producing states.

I spent the summer and fall of 2011 in the Chesapeake Bay area of Virginia and had many conversations with small scale and large scale growers. Most expressed envy of our position here in NC for at least oyster culture. We don’t yet have the disease and pollution pressures that the Chesapeake Bay has encountered and our industry is basically undeveloped. They say that we are where Virginia was 15 years ago. We can look 15 years into the future using Virginia as an example and learn from their examples to create a smoother growth with regulators, wild harvest watermen, recreational water users and real estate interests. There is enough underutilized NC coastline that there need not be conflict between the different factions or with communities that prefer to stay closed to shellfish aquaculture.

When the last newsletter was printed in April 2010, the following items were listed as goals or activities to help the NCSGA move closer to its goals of promoting the NC shellfish industry and to improve the economic wellbeing of those interested in and involved in shellfish growing and the communities where shellfish enterprise occurs. I have included these again to remind the SGA members to not lose sight of these efforts and the reason for larger goals.

(Excerpt from April 2010 newsletter)

“The future of NCSGA: As you can see we have a lot of people to educate. This is where **you** come in. Efforts to increase 2010 NCSGA activities include:

- Starting a shellfish mariculture training class for interested fishermen.

- Visiting legislators in Raleigh to discuss issues that we feel need their immediate action.
- Visiting NC Division of Marine Fisheries officials to discuss possible ways to streamline the permitting process. Presently, the permitting requirements which DMF imposes are cumbersome and expensive, creating a deterrent for interested shellfish growers.
- Attend as many public events as possible, including, the NC Seafood festival, NC Oyster Festival, and NC Aquaculture Development Conference. These conferences provide a way to spread the word about NCSGA and what we do.
- Establish a fundraiser to help defray the costs of event participation. Many of the activities that we undertake cannot be covered by NCSGA dues alone; therefore, a fundraiser will help us fund outreach activities.”

Some of these efforts such as approaching legislators should wait until the NC shellfish industry has grown more, and the opportunity would be more productive. Other efforts such as starting to proactively promote, and recruit new NCSGA memberships and offer training to new and potential shellfish growers to encourage the long term viability of the association would help now.

As a new shellfish grower, I am familiar with many of the hurdles that new growers face such as understanding and complying with the permits and regulations, lease site selection, choosing a growing method, materials and seed sources, lease management knowledge, etc. The SGA

should and could offer some informal training to potential and new growers

By collectively approaching the DMF Shellfish advisory committee, the SGA could seek even minor changes to the permitting process and fee assessment. For example, why couldn't shellfish and aquaculture operation permits be valid for a year from the month purchased instead of June to June. Have permitting and lease procurement workshops to help clarify the process to new growers.

Equipment and seed could be purchased collectively as a group to receive better large quantity prices.

The survey done by Dr. Turano indicated that about 80% of the respondents held leases in Pender, Carteret and Onslow Counties, meaning that there is a lot of unused coastline. Most of the lease holders are part-time growers on leases 5 acres or less in size. Although most oyster growers plant cultch on the bottom for grow out, there may be the need for training on alternative grow out methods if cultch becomes scarce. In short I would like to see the SGA become a well known resource of information that attracts new growers and is a considerable source of value to the members. I would be very interested to know how other members feel about these comments and the need for more promotion and training to attract new growers. You can email comments for the next newsletter to Richard Farris, NCSGA Secretary, ncsgasecretary@yahoo.com.

Classifieds (free to members)

***Millpoint Aquaculture,
Sea Level, NC***

***Oyster and Clam Seed Available
Clam Seed Available in Various Sizes
Diploid and Triploid Oyster Spat of Various Sizes***

Call Jimmy Morris 252-345-7452 for Prices and Availability

NCSGA Membership

The NCSGA is currently updating its membership list and the members' preferred contact information. We are also offering an optional deliver method for the newsletter, paper or electronic. (Receiving your newsletter by email saves the SGA money for postage, ink and paper, which helps to keep your annual dues to a minimum; however, we will gladly send it by postal mail.) ***If you would still like to continue receiving the NCSGA Newsletter, please complete and detach the form below, and mail it along with your \$15 annual dues (if not already paid for 2012) to the new NCSGA mailing address: PO Box 1501 Morehead City, NC 28557.***

North Carolina Shellfish Growers Association

Jay Styron- President

Mark Hooper- Vice President

Dana Schmidt- Treasurer

Email: NCSGATreasurer@yahoo.com

Richard Farris- Secretary

Email: NCSGASecretary@yahoo.com

Board of Directors

Jay Styron

Bob Cummings

Bradley Lawrence

Tom Mattison

Kevin Lawrence

Name: _____

Mailing Address:

Phone: _____

Email: _____

I prefer to receive my newsletter by: Mail ☐ E-mail ☐



P.O. Box 1501
Morehead City, NC 28557